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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/444,723	11/24/1999	JEFFREY WOODING	100-42	9016

23117 7590 05/04/2005  
 NIXON & VANDERHYE, PC  
 1100 N GLEBE ROAD  
 8TH FLOOR  
 ARLINGTON, VA 22201-4714

EXAMINER

TAYLOR, BARRY W

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 05/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/444,723

Applicant(s)

WOODING, JEFFREY

Examiner

Barry W Taylor

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-28, 34-37 and 44 is/are allowed.
- 6) ☒ Claim(s) 29-33, 38, 39, 42 and 43 is/are rejected.
- 7) ☒ Claim(s) 40-41 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11/24/09 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 29-30, and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Emerson et al (5,553,059 hereinafter Emerson).

Regarding claim 29. Emerson teaches apparatus for remotely measuring characteristics of a communications line, comprising:

a receiver unit (i.e., Network Based Test System 32) connected to one end of the communications line (i.e. connected to one of channel data ports in Office Channel Unit Ports (OCU\_DP) 24, col. 3 lines 7-14 and col. 4 lines 33-36), the receiver unit including a signal generator for generating a signal uniquely representing a characteristic of the communications line to be measured, a signal transmitter for transmitting the generated signal (i.e., for performing a loop back test, a signal generator of Network Based Test System 32 generates a signal such as a serial stream data, and said serial stream data is transmitted by a signal transmitter, col. 3 lines 44-55), and predetermined circuitry (i.e., a compare circuit for comparing the bit sequence received back from the NIU 22) that is selectively connected across the communications line at the remote end based on the characteristic to be measured (col. 4 lines 33-43); and

a sender unit connected to another end of the communications line (i.e., Network Interface Unit (NIU) 22), the sender unit including a serial detector (i.e., NIU 22 command detector circuit 24) that detects the signal transmitted from the receiver unit (col. 4 line 66 – col. 5 line 1), measurement-related circuits (i.e., Pattern #1 through Pattern #N as shown in figure 4), and a switching circuit (i.e., Pattern Generator 36 and Test Pattern MUX 62E) controlled in accordance with the detected signal to selectively connect at least one of the measurement circuits across the communications line to enable the characteristic of the communications line to be measured (col. 5 line 64 – col. 6 line 13, col. 17 line 66 – col. 8 line 6).

Regarding claim 30. Emerson teaches wherein the signal uniquely representing a characteristic of the communications line comprises a coded series of pulses (col. 1 lines 64-67, col. 3 lines 36-38, col. 3 line 66 – col. 4 line 67, col. 5 lines 1-66, col. 6 lines 27-67, col. 7 lines 1-65).

Regarding claim 42. Emerson shows using an oscillator (see bit patterns oscillating between different one's and zero's columns 4-6).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claim 31, 38-39 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emerson et al (5,553,059 hereinafter Emerson) in view of Borchering et al (5,802,143 hereinafter Borchering).

Regarding claim 31. Emerson does not explicitly show relays.

Borchering teaches a telephone technician's remote assist apparatus connects into telephone lines to be tested by the technician (see Service Restoration System figure 2). Borchering discloses using switching fabric (see 328 figures 3A, 3B and 3C) used to **sequentially** connected predetermined circuitry so that damaged cable pairs maybe identified and restored (abstract, col. 5 lines 15-33).

Therefore, it would have been obvious for any one of ordinary skill in the art at the time the invention was made to modify the apparatus as taught by Emerson to include switching fabric as taught by Borchering so that sequential messages may be

used to switch predetermined circuitry across communication lines to selectively ground telephone lines enabling for damaged lines to be identified and restored.

Regarding claim 38. Emerson does not explicitly show a single line pair and the measurement-related circuits are connected between the two lines of the single line pair.

Borchering teaches a telephone technician's remote assist apparatus connects into telephone lines to be tested by the technician (see Service Restoration System figure 2). Borchering discloses using switching fabric (see 328 figures 3A, 3B and 3C) used to sequentially connected predetermined circuitry so that damaged cable pairs maybe identified and restored (abstract, col. 5 lines 15-33).

Therefore, it would have been obvious for any one of ordinary skill in the art at the time the invention was made to modify the apparatus as taught by Emerson to include switching fabric as taught by Borchering so that sequential messages may be used to switch predetermined circuitry across communication lines to selectively ground telephone lines enabling for damaged lines to be identified and restored.

Regarding claim 39. Emerson discloses the capability to determine transmission problems on the telephone line but does not explicitly describe using numeric value.

Borchering teaches a telephone technician's remote assist apparatus connects into telephone lines to be tested by the technician (see Service Restoration System figure 2). Borchering discloses using switching fabric (see 328 figures 3A, 3B and 3C)

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used to sequentially connected predetermined circuitry so that damaged cable pairs maybe identified and restored (abstract, col. 5 lines 15-33).

Therefore, it would have been obvious for any one of ordinary skill in the art at the time the invention was made to modify the apparatus as taught by Emerson to include switching fabric as taught by Borchering so that sequential messages may be used to switch predetermined circuitry across communication lines to selectively ground telephone lines enabling for damaged lines to be identified and restored.

Regarding claim 43. Emerson does not explicitly show using buttons. However, Emerson shows using the well-known command sequence to trigger a pattern generator (column 5). Emerson even provides the option of which pattern is to be generated.

Borchering teaches a telephone technician's remote assist apparatus connects into telephone lines to be tested by the technician (see Service Restoration System figure 2). Borchering discloses using switching fabric (see 328 figures 3A, 3B and 3C) used to sequentially connected predetermined circuitry so that damaged cable pairs maybe identified and restored (abstract, col. 5 lines 15-33).

Therefore, it would have been obvious for any one of ordinary skill in the art at the time the invention was made to modify the apparatus as taught by Emerson to include switching fabric as taught by Borchering so that sequential messages may be used to switch predetermined circuitry across communication lines to selectively ground telephone lines enabling for damaged lines to be identified and restored.

3. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emerson et al (5,553,059 hereinafter Emerson) in view of Bass (3,920,975).

Regarding claims 32-33. Emerson discloses the capability to determine transmission problems on the telephone line but does not explicitly describe line loss.

Bass teaches a remote test and control system that is compatible with any type of signaling system whether it be strictly polled wherein each remote is sequentially addressed or a multiplex arrangement, frequency or time domain, permitting more than one communication to take place simultaneously (column 5). Bass discloses using complex frequencies with a carrier frequency of 300 HZ and a data rate of 50 baud permits the command signals to be transmitted at a lower frequency avoiding interference between data and command signals (columns 1-16). Bass discloses that it will be readily apparent to those skilled in the art that such characteristics as line loss, frequency response, envelope delay, etc., can be and are in fact measured in this fashion (column 6 line 46 – column 12 line 67).

Therefore, it would have been obvious for any one of ordinary skill in the art at the time the invention was made to modify the apparatus as taught by Emerson to use the frequency scheme as taught by Bass so that command signals may be transmitted at a lower frequency than data signals thus avoiding interface.

***Allowable Subject Matter***



4. Claims 40-41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. Claims 1-28, 34-37 and 44 are allowed.

***Response to Arguments***

6. Applicant's arguments filed 12/22/04 have been fully considered but they are not persuasive.

a) Regarding Applicants remarks on page 18, lines 4-11 and repeated on page 24, lines 9-15 of paper dated 12/22/04 wherein Applicants contend that Emerson does not disclose, among other things, switching predetermined circuitry across a communication line at either end thereof to enable a selected characteristic of the line to be measured as set forth in claim 1.

The Examiner agrees but claim 29 does not claim switching predetermined circuitry across a communication line nor does claim 29 recite the means plus functions as recited in claim 1 therefore "predetermined" reads on the comparison circuit.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry W. Taylor, telephone number (571) 272-7509, who is available Monday-Friday, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz, can be reached at (571) 272-7499. The facsimile phone number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (571) 272-2600, the 2600 Customer Service telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For

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more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Barry W. Taylor". The signature is fluid and cursive, with a long, sweeping line extending from the end of the name.

Barry W. Taylor  
Patent Examiner  
Technology Center 2600  
Art Unit 2643